

**EP WELLS DAILY OPERATIONS REPORT**

Report 19

10/03/2017

Company PERMIAN  
 Well Type Development  
 Well UNIVERSITY 19 H 0908H  
 Wellbore UNIVERSITY 19 H 0908H  
 WBS No/API No 30266564 / 4230133234.00

**Event Summary**

|            |                     |                    |                  |                  |       |
|------------|---------------------|--------------------|------------------|------------------|-------|
| Event Type | Completion only     | Event Start Date   | 09/03/2017       | Days on Location | 19.00 |
| Objective  | Install Completion  | Original Spud Date | 05/08/2017       |                  |       |
| Est. Days  | 31.00               | Contractor         | PERMIAN WELL SVC |                  |       |
| Work Unit  | PERMIAN COMPLETIONS | Days To Release    |                  |                  |       |
|            |                     | Rig Phone/FAX No.  |                  |                  |       |

**Well Status**

|                                    |                          |                          |   |
|------------------------------------|--------------------------|--------------------------|---|
| Supervisor                         | T GREGA                  | Measured Depth(ft)       |   |
| Engineer                           | Alex Villegas            | TVD(ft)                  |   |
| Other Supervisor                   | STEELE,MORGAN BRETT      | 24 Hr Progress(ft)       |   |
| Depth Ref/Grd Elev/Water Depth(ft) | DFE: 2,792.80 / 2,766.80 | Hole size(in)            |   |
| THF Datum                          |                          |                          |   |
| Daily NPT(hr/%)                    | 0/0                      | Last Casing MD           |   |
| Days Ahd(-) Bhnd(+)(50/50)         |                          | Next Casing MD           |   |
| Actual cost to date/AFE            | 784,332/4,135,334.00     | Current MW / BH EMW(ppg) | / |
| Actual divided by AFE              | 0.19                     | LOT/FIT EMW(ppg)         |   |
| Daily Cost                         | 164,028                  | Lithology                |   |
|                                    |                          | Formation/MD Top         |   |

**HSE Summary**

| Last Incident   | Date | Days | Last Incident  | Date | Days | KPI's  |
|---|------|------|--|------|------|--|
| LWC<br>RWC<br>MTC<br>FAC<br>Last casing pressure test |      |      | PSI<br>NII<br>HPI<br><b>GOAL ZERO DAYS</b><br><b>PS BARRIER EVENT</b><br><b>PS barrier bowtie review</b> |      |      | TRCF<br>LWCF<br>Safety Cards - Safe<br>Safety Card - Unsafe<br>SSE%<br>Last casing pressure(psi) |
| Safety Comments:                                      |      |      |  |      |      |  |

**HSE Drills**

| Drills/Tests  | Date | Days Since Last | JSA's/Toolbox Talks<br>Days Since Last Drill |
|---|------|-----------------|--|
| Last Derrick Inspection<br>Last BOP function test<br>Last BOP Test<br>Next BOP Test |      |                 | 18   |

**Operations Summary**

|                                 |
|---------------------------------|
| <b>24 Hour Summary</b>          |
| FRAC STG 8,9<br>PERF STG 8,9,10 |
| Update Since Report Time        |
|                                 |
| <b>24 Hour Forecast</b>         |
| CONTINUE FRAC OPERATIONS        |

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Time Summary

| Start | Hours | PH   | OPN | Detail | Drilled Depth (ft) | NPT level | Rig Rate | Description   |
|-------|-------|------|-----|--------|--------------------|-----------|----------|---|
| 0:00  | 1.87  | FRAC | FWL |        |                    | 0         |          | Wait on other pad operations.   |
| 1:52  | 0.30  | FRAC | FWL |        |                    | 0         |          | 125 Shut in well with 4350psi. Bleed off.<br>145 Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves.<br>152 Handover from WL to frac.   |
| 2:10  | 1.12  | FRAC | WLT |        |                    | 0         |          | 311 "Stage #8 Plug and Perf<br>RIH with (4) 1' Keane guns: 2.75" OD HSC at 6SPF with 60* phased perforating guns and Downhole Technology Boss Hog composite ball-drop frac plug. Tie into liner top @11016". Pump down as follows:<br>3bpm @ 4300psi11380<br>6bpm @ 4600psi11600<br>9bpm @ 5000psi11730<br>bpm @ psi<br>bpm @ psi<br>9bpm @ 6094psi<br><br>Set plug @ 17836ft<br>Perforate as follows:<br>17823' - 17824'<br>17779' - 17780'<br>17735' - 17736'<br>17688' - 17689'<br>Stabilized pressure after perf: 5200psi<br>Pump down volume: 125bbl"<br>317 POOH  |
| 3:17  | 1.22  | FRAC | WLF |        |                    | 0         |          | Shut in well with 4400psi. Bleed off.Break lubricator. All shots fired.MU night cap. LD tools and lub.Secure crown and wing valves.Handover from WL to frac.  |
| 4:30  | 0.45  | FRAC | WLF |        |                    | 0         |          | Wait on other pad operations.   |
| 4:57  | 1.67  | FRAC | WLF |        |                    | 0         |          | Stage 8 Summary University 19 H 0908H<br>Interval 17691 - 17824<br>Open Well Pressure 4,781 psi<br>Max Treating Pressure 9,192 psi<br>Max Slurry Rate 60.4 bpm<br>Average Treating Pressure 8,589 psi<br>Average Slurry Rate 52.3 bpm<br>Breakdown Pressure 7,478 psi<br>Breakdown Rate 9.2 bpm<br>Breakdown Volume 210 gal<br>Avg HHP 11,010 hp<br>Final ISIP 5,337 psi<br>Frac Gradient 0.895 psi/ft<br>Pad Volume 966 gal<br>Main Body Volume 184,422 gal<br>Flush Volume 28,056 gal<br>100 MAZ Sand Pumped 0 lbs<br>100 M Brown Sand Pumped 0 lbs<br>100 M Sand Pumped 0 lbs<br>Proppant in Formation 0 lbs<br>Avg Proppant Concentration 2.85 lb/gal<br>Max Proppant Concentration 4.00 lb/gal<br>Load to Recover 4,516 bbls<br>Load to Recover w/o Acid 4,504 bbls<br>15% HCL Spearhead 504 gal<br>Slickwater Fluid Pumped 4,299 bbls<br>20# Linear Fluid Pumped 80 bbls<br>20# Crosslink Fluid Pumped 0 bbls<br>Pump down volume 125 bbls<br>pump down rate 9.0 bpm<br>Max pump down pressure 6,094 psi<br>Fluid Temp 72.0 ?F<br>Total Pump Time 1:40 hr:min<br>Pumps Lost During Job 0<br>Treatment Start Time 4:57 0:00 0:00 |

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| Start | Hours | PH   | OPN | Detail | Drilled Depth (ft) | NPT level | Rig Rate | Description  |
|-------|-------|------|-----|--------|--------------------|-----------|----------|--|
|       |       |      |     |        |                    |           |          | Treatment End Time 6:37 0:00 1:40<br>Diverter Slurry bbls<br><br>-Pumped sand in a 0.50 PPA -2.50 PPA ramp, 2.50 PPA, 3.00 PPA, 3.5 PPA, 4.0 PPA Steps.<br>-Two 20# gel sweeps 40 bbls each were pumped prior to flush.<br>- Pumped one 500gal shot of acid.<br>- Ran a ball in place plug.  |
| 6:37  | 2.88  | FRAC | WLF |        |                    | 0         |          | Wait on other pad operations.  |
| 9:30  | 0.42  | FRAC | WLF |        |                    | 0         |          | Shut in well with 4400psi. Bleed off.Break lubricator. All shots fired. MU night cap. LD tools and lub. Secure crown and wing valves.Handover from WL to frac.   |
| 9:55  | 1.07  | FRAC | WLT |        |                    | 0         |          | "Stage #9 Plug and Perf<br>RIH with (4) 1' Keane guns: 2.75" OD HSC at 6SPF with 60* phased perforating guns and Downhole Technology Boss Hog composite ball-drop frac plug. Tie into liner top @11016". Pump down as follows:<br>3bpm @ 4500psi11380<br>6bpm @ 4700psi11600<br>9bpm @ 5600psi11730<br>11.5bpm @ 6000 psi<br><br>11.5bpm @ 6150psi<br><br>Set plug @ 17671ft<br>Perforate as follows:<br>17647' - 17648'<br>17603' - 17604'<br>17560' - 17561<br>17516' - 17517'<br>Stabilized pressure after perf: 53005psi<br>Pump down volume: 108bbl"<br>POOH  |
| 10:59 | 1.95  | FRAC | WLF |        |                    | 0         |          | Wait @ 200ft on other pad operations   |
| 12:56 | 1.28  | FRAC | WLF |        |                    | 0         |          | Shut in well with 4600psi. Bleed off.Break lubricator. All shots fired.MU night cap. LD tools and lub.Secure crown and wing valves.Handover from WL to frac.   |
| 14:13 | 1.57  | FRAC | FRT |        |                    | 0         |          | Stage 9 Summary University 19 H 0908H<br>Interval 17516 - 17648<br>Open Well Pressure 4,994 psi<br>Max Treating Pressure 9,153 psi<br>Max Slurry Rate 61.3 bpm<br>Average Treating Pressure 8,421 psi<br>Average Slurry Rate 54.2 bpm<br>Breakdown Pressure 7,542 psi<br>Breakdown Rate 4.5 bpm<br>Breakdown Volume 84 gal<br>Avg HHP 11,187 hp<br>Final ISIP 5,237 psi<br>Frac Gradient 0.886 psi/ft<br>Pad Volume 2,436 gal<br>Main Body Volume 183,792 gal<br>Flush Volume 27,804 gal<br>100 MAZ Sand Pumped 0 lbs<br>100 M Brown Sand Pumped 0 lbs<br>100 M Sand Pumped 424,280 lbs<br>Proppant in Formation 424,280 lbs<br>Avg Proppant Concentration 2.87 lb/gal<br>Max Proppant Concentration 4.00 lb/gal<br>Load to Recover 4,484 bbls<br>Load to Recover w/o Acid 4,472 bbls<br>15% HCL Spearhead 504 gal<br>Slickwater Fluid Pumped 4,284 bbls<br>20# Linear Fluid Pumped 80 bbls<br>20# Crosslink Fluid Pumped 0 bbls |

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|--------------|--------------|------|-----|--------|--------------------|-----------|----------|--|
|              |              |      |     |        |                    |           |          | Pump down volume 108 bbls<br>pump down rate 11.5 bpm<br>Max pump down pressure 6,100 psi<br>Fluid Temp 72.0 ?F<br>Total Pump Time 1:34 hr:min<br>Pumps Lost During Job 1<br>Treatment Start Time 14:13 0:00 0:00<br>Treatment End Time 15:47 0:00 1:34<br>Diverter Slurry bbls<br><br>-Pumped sand in a 0.50 PPA -3.00 PPA ramp,3.00 PPA, 3.50 PPA, 4.0 PPA Steps.<br>-Two 20# gel sweeps 40 bbls each were pumped prior to flush.<br>- Pumped one 500gal shot of acid.<br>- Ran a ball in place plug.<br>- Lost pump Q417 due to electrical issues.   |
| 15:47        | 3.72         | FRAC | FWL |        |                    | 0         |          | WAIT ON OTHER PAD OPERATIONS   |
| 19:30        | 0.88         | FRAC | FWL |        |                    | 0         |          | 1930 Handover from frac to WL.<br>1945 Pick up lubricator. Remove night cap. PU tools.<br>1950 Stab lubricator. Fill lubricator.<br>1957 PT lubricator to 8000psi<br>2023 Open well with 4300psi.  |
| 20:23        | 2.70         | FRAC | WLT |        |                    | 0         |          | 922 "Stage #10 Plug and Perf<br>RIH with (4) 1' Keane guns: 2.75" OD HSC at 6SPF with 60* phased perforating guns and Downhole Technology Boss Hog composite ball-drop frac plug. Tie into liner top @11016". Pump down as follows:<br>3bpm @ 4300psi11497<br>6bpm @ 4600psi11600<br>9bpm @ 5000psi11690<br>10bpm @ 6300psi13024<br>bpm @ psi<br>10.3bpm @ 6538psi<br><br>Set plug @ 17495ft<br>Perforate as follows:<br>17472' - 17473'<br>17427.5' - 17428.5'<br>17383.5' - 17384.5'<br>17340' - 17341'<br>Stabilized pressure after perf: 4780psi<br>Pump down volume: 116bbl"<br>2135 POOH |
| 23:05        | 0.12         | FRAC | WLT |        |                    | 0         |          | 2305 Shut in well with 4250psi. Bleed off.<br>2310 Break lubricator. All shots fired. Drop ball. MU night cap. LD tools and lub. Secure crown and wing valves.<br>2312 Handover from WL to frac.   |
| 23:12        | 0.80         | FRAC | WLT |        |                    | 0         |          | WAIT ON OTHER PAD OPERATIONS   |
| <b>Total</b> | <b>24.00</b> |      |     |        |                    |           |          |  |

06.00 Update

| Start | Hours | PH   | OPN | Detail | Drilled Depth (ft) | NPT level | Description                  |
|-------|-------|------|-----|--------|--------------------|-----------|------------------------------|
| 0:00  |       | FRAC | WLT |        |                    | 0         | WAIT ON OTHER PAD OPERATIONS |